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10/646,430	08/22/2003	Brandon Stuart Burroughs	UTL00329	9170

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EXAMINER

PIZIALI, JEFFREY J

ART UNIT	PAPER NUMBER
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2629

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/646,430

Applicant(s)

BURROUGHS, BRANDON
STUART

Examiner

Jeff Piziali

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 3 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-11 and 13-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4-11, and 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Hughes et al (US 5,754,655 A)* in view of *Griffin et al (US 6873317 B1)*.

Regarding claim 1, Hughes discloses a keyboard [Fig. 11; 14] for a handheld electronic device [Fig. 11; 310] including a display [Fig. 11; 12], the keyboard configured for use with thumbs of a user and comprising: a left set of one or more rows of input keys [Fig. 11; Q, A, Z] and a right set of one or more rows of input keys [Fig. 11; P, L, M] separated by a centerline [Fig. 11; vertical line dividing the device 300 in half], the left set of one or more rows of input keys arranged in one or more respective arcs having one or more respective arc centers located to the left of the centerline, and the right set of one or more rows of input keys arranged in one or more respective arcs having one or more respective arc centers located to the right of the centerline; and a substantially rectangular numeric keypad [Fig. 11; 16] including a plurality of phone number input keys [Fig. 11; 0-9] that together are arranged in a rectangular configuration for entering phone numbers centered below, and distinct from, the left and right sets of one or more rows of input keys, wherein the left set of one or more rows of input keys and the right set

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of one or more rows of input keys are sandwiched between the display and the substantially rectangular numeric keypad (see Column 9, Lines 8-51).

Although one having ordinary skill in the art would probably recognize that Hughes' left and right sets of one or more rows of input keys are arranged in one or more respective arcs; should the applicant argue convincingly that such subject matter is not taught by Hughes with sufficient specificity, Griffin does disclose a keyboard for a handheld electronic device including a display (see Fig. 2), the keyboard configured for use with thumbs of a user and comprising: a left set of one or more rows of input keys [Fig. 9; Q, A, Z] and a right set of one or more rows of input keys [Fig. 9; P, L, M] separated by a centerline, the left set of one or more rows of input keys arranged in one or more respective arcs having one or more respective arc centers located to the left of the centerline, and the right set of one or more rows of input keys arranged in one or more respective arcs having one or more respective arc centers located to the right of the centerline; and a substantially rectangular numeric keypad including a plurality of phone number input keys that together are arranged in a rectangular configuration for entering phone numbers distinct from the left and right sets of one or more rows of input keys (see Column 9, Lines 7-18).

Hughes and Griffin are analogous art, because they are both from the shared field of electronic data entry and display devices utilizing QWERTY style keyboards.

Firstly, it would have been obvious to one having ordinary skill in the art at the time of invention to substitute Griffin's arched QWERTY keyboard arrangement in the place of Hughes' QWERTY keyboard, so as to make use of an alternate, standard keyboard layout that is comfortable for the user, enabling efficient and user-friendly data entry (see Griffin, Column 4, Lines 18-21).

Secondly, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute Griffin's arched QWERTY keyboard arrangement in the place of Hughes' QWERTY keyboard, because all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Thirdly, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute Griffin's arched QWERTY keyboard arrangement in the place of Hughes' QWERTY keyboard, because the substitution of one known QWERTY keyboard arrangement for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Fourthly, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute Griffin's arched QWERTY keyboard arrangement in the place of Hughes' QWERTY keyboard, because the technique for improving this particular class of device (e.g., QWERTY keyboards) was part of the ordinary skill in the art, in view of the teaching of the technique for improvement in other situations.

Fifthly, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute Griffin's arched QWERTY keyboard arrangement in the place of Hughes' QWERTY keyboard, because this particular known technique (i.e., arching QWERTY keyboard layouts) was recognized as part of the ordinary capabilities of one skilled in the art.

Sixthly, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute Griffin's arched QWERTY keyboard arrangement in the place of Hughes' QWERTY keyboard, because a person of ordinary skill has good reason to pursue the known

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options within his or her technical grasp. If this leads to the anticipated success, it is likely the product is not of innovation but of ordinary skill and common sense.

Seventhly, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute Griffin's arched QWERTY keyboard arrangement in the place of Hughes' QWERTY keyboard, because design incentives or market forces provided a reason to make an adaptation, and the invention resulted from application of the prior knowledge in a predictable manner.

Regarding claim 2, Hughes discloses a QWERTY keyboard layout (see Fig. 1).

Additionally, Griffin discloses a QWERTY keyboard layout (see Fig. 9).

Regarding claim 4, Hughes discloses the one or more respective arc centers of the left set of one or more rows of input keys are concentric and the one or more respective arc centers of the right set of one or more rows of input keys are concentric (see Fig. 1; Column 9, Lines 8-51).

Additionally, Griffin discloses the one or more respective arc centers of the left set of one or more rows of input keys are concentric and the one or more respective arc centers of the right set of one or more rows of input keys are concentric (see Fig. 9; Column 9, Lines 7-18).

Regarding claim 5, Hughes discloses the one or more respective arc centers of the left set of one or more rows of input keys are collinear and the one or more respective arc centers of the right set of one or more rows of input keys are collinear (see Fig. 1; Column 9, Lines 8-51).

Additionally, Griffin discloses the one or more respective arc centers of the left set of one or more rows of input keys are collinear and the one or more respective arc centers of the right set of one or more rows of input keys are collinear (see Fig. 9; Column 9, Lines 7-18).

Regarding claim 6, this claim is rejected by the reasoning applied in rejecting claim 5; furthermore, Hughes discloses the one or more respective arc centers of the left set of one or more rows of input keys are collinear and located in at least one of a vertical line and a horizontal line and the one or more respective arc centers of the right set of one or more rows of input keys are collinear and located in at least one of a vertical line and a horizontal line (see Fig. 1; Column 9, Lines 8-51).

Additionally, Griffin discloses the one or more respective arc centers of the left set of one or more rows of input keys are collinear and located in at least one of a vertical line and a horizontal line and the one or more respective arc centers of the right set of one or more rows of input keys are collinear and located in at least one of a vertical line and a horizontal line (see Fig. 9; Column 9, Lines 7-18).

Regarding claim 7, Hughes discloses the respective arcs of the left set of one or more rows of input keys and the respective arcs of the right set of one or more rows of input keys include radii of curvature between 10 mm and infinity (see Fig. 1; Column 9, Lines 8-51).

Additionally, Griffin discloses the respective arcs of the left set of one or more rows of input keys and the respective arcs of the right set of one or more rows of input keys include radii of curvature between 10 mm and infinity (see Fig. 9; Column 9, Lines 7-18).

Regarding claim 8, Hughes discloses the arcs of the left set of one or more rows of input keys and the arcs of the right set of one or more rows of input keys form respective angles between 0 and 90 degrees with respect to the centerline (see Fig. 1; Column 9, Lines 8-51).

Additionally, Griffin discloses the arcs of the left set of one or more rows of input keys and the arcs of the right set of one or more rows of input keys form respective angles between 0 and 90 degrees with respect to the centerline (see Fig. 9; Column 9, Lines 7-18).

Regarding claim 9, Hughes discloses each row of the one or more rows of each set include a left-most input key [Fig. 1; Q] and a right-most input key [Fig. 1; P], the left set of one or more rows are opposite the right set of one or more rows (see Column 9, Lines 8-51), and lines drawn through the left-most input key and the right most input key of opposite rows intersect the centerline to form a V shape (see Fig. 1).

Additionally, Griffin discloses each row of the one or more rows of each set include a left-most input key [Fig. 9; Q] and a right-most input key [Fig. 9; P], the left set of one or more rows are opposite the right set of one or more rows (see Column 9, Lines 7-18), and lines drawn through the left-most input key and the right most input key of opposite rows intersect the centerline to form a V shape (see Fig. 9).

Regarding claim 10, this claim is rejected by the reasoning applied in rejecting claims 1 and 9.

Regarding claim 11, this claim is rejected by the reasoning applied in rejecting claim 2.

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Regarding claim 13, this claim is rejected by the reasoning applied in rejecting claim 8.

Regarding claim 14, this claim is rejected by the reasoning applied in rejecting claim 1.

Regarding claim 15, this claim is rejected by the reasoning applied in rejecting claim 7.

Regarding claim 16, this claim is rejected by the reasoning applied in rejecting claims 1 and 9; furthermore, Hughes discloses providing a thumb keyboard [Fig. 1; 14]; using only the left thumb to input information into the handheld electronic device using the left set of one or more rows of input keys; using only the right thumb to input information into the handheld electronic device using the right set of one or more rows of input keys (see Column 9, Lines 8-51).

Additionally, Griffin discloses providing a thumb keyboard; using only the left thumb to input information into the handheld electronic device using the left set of one or more rows of input keys; using only the right thumb to input information into the handheld electronic device using the right set of one or more rows of input keys (see Fig. 9; Column 9, Lines 7-18).

Regarding claim 17, this claim is rejected by the reasoning applied in rejecting claim 2.

Regarding claim 18, this claim is rejected by the reasoning applied in rejecting claim 8.

Regarding claim 19, this claim is rejected by the reasoning applied in rejecting claim 1.

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Regarding claim 20, this claim is rejected by the reasoning applied in rejecting claim 7.

Response to Arguments

3. Applicant's arguments with respect to claims 1, 2, 4-11, and 13-20 have been considered but are moot in view of the new grounds of rejection.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tosey et al (US 2004/0229663 A1), Griffffin (US 2004/0198249 A1), Griffin et al (US 2003/0073456 A1), Lee et al (US 2002/0190957 A1), Friend (US 6,995,749 B2), Kim et al (US 6,940,490 B1), Brandenburg et al (US 6,834,195 B2), Ossia (US 6,747,635 B2), Lunsford (US 6,507,336 B1), Kirk (US 6,459,422 B1), Makhoulf (US 6,292,172 B1), Oba (US 5,926,170 A), Roca et al (US 5,739,744 A), Redford (US 5,339,095 A), and Koenck et al (US 5,202,817 A) are cited to further evidence the state of the art pertaining to keyboards for handheld electronic devices.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (571) 272-7678. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jeff Piziali
20 August 2007